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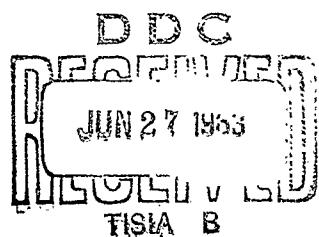
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STUDIES IN MACHINE TRANSLATION:
BIBLIOGRAPHY OF RUSSIAN
SCIENTIFIC ARTICLES

K. E. Harper, D. G. Hays and B. J. Scott



PREPARED FOR:

UNITED STATES AIR FORCE PROJECT RAND

The **RAND** *Corporation*
SANTA MONICA • CALIFORNIA

MEMORANDUM

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PREFACE

This Memorandum is one of a series of studies describing work on automatic language data processing at The RAND Corporation. It is a revision of the bibliography published in RM-2069, October 1958. The itemized textual material has been stored on magnetic tape and is available for research purposes.

SUMMARY

This Memorandum, one of a series on computer applications to language study, is a catalogue of the Russian scientific articles currently available at The RAND Corporation on magnetic tape.

The text comprises twelve corpora of physics articles, four of mathematics, seven of astrobotany, and one of cybernetics. Altogether there are 586 articles, totalling 725,921 running words.

A general introduction to this area of research is given in Memorandum RM-2916-PR, while a description of the codes and formats used to represent this text is currently in preparation. The present paper is of most interest to system and procedure designers who require textual material for research or test purposes.

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STUDIES IN MACHINE TRANSLATION--BIBLIOGRAPHY
OF RUSSIAN SCIENTIFIC ARTICLES

1. INTRODUCTION

This document is one of a series describing the methods now in use for linguistic research at The RAND Corporation. The present paper catalogues the Russian scientific articles keypunched into IBM cards at The RAND Corporation and presently available on magnetic tape for research purposes.

2. CORPORA

Twenty-four corpora are described in this paper; Table 1 lists these corpora, noting the source publications and specifying the size of each corpus in terms of three quantities: number of articles, number of pages, and number of occurrences (running words).

Corpora 1 and 3 consist of articles selected at Michigan under the direction of A. Koutsoudas; the remaining corpora were prepared at RAND, with H. P. Edmundson chiefly responsible for article selection.

3. BIBLIOGRAPHY

Each of the following bibliographic entries contains both the Russian title and its English translation; the name of the author, transliterated into Roman characters by the RAND rules; the journal or book, volume, date, and

Table 1

SUMMARY OF CORPORA

Corpus Number	Journal ^a	Field	Year	Volume	Size of Corpus		
					Arts.	Pages	Occurrences
1	ZHETF	Physics	1955	28	21	137	31,541
2	DAN	Physics	1955-1956	105-106	27	94	22,148
3	ZHETF	Physics	1955	29	18	176	44,180
4	DAN	Mathematics	1956-1957	106, 107, 108, 109, 113	28	95	23,858
5	DAN	Physics	1956	106, 108, 109	26	100	28,357
	IAN	Physics	1955	19			
6	DAN	Physics	1956	108, 110	35	119	27,960
7	DAN	Mathematics	1956	108, 110	35	125	27,672
8	DAN	Mathematics	1956	110, 111	35	125	26,775
9	DAN	Physics	1956	111	35	122	28,864
B	DAN	Physics	1956-1957	111, 112, 113	35	118	28,673
C	DAN	Mathematics	1956-1957	111, 114, 116, 117	35	126	29,819
D	DAN	Physics	1957	113, 114	35	117	29,285
E	DAN	Physics	1957	115	32	110	25,701
F	DAN	Physics	1957	114, 116, 117	28	132	34,449
	IAN	Physics	1958	22			
G	IAN	Physics	1958	22	18	133	34,045
	ZHETF		1956	30			

Table 1 (Continued)

SUMMARY OF CORPORA

Corpus Number	Journal ^a	Field	Year	Volume	Size of Corpus		
					Arts.	Pages	Occurrences
H	TAN	Astrobotany	1955	4	13	95	30,826
I	TAN	Astrobotany	1955	4	28	151	34,815
			1951				
J	KOZLOVA	Astrobotany	1955		12	120	26,277
K	IAN (K) DARCHIYA	Astrobotany	1950-1956	90	13	153	37,040
L	TAN	Astrobotany	1953	1, 2	28	123	35,527
M	TAN	Astrobotany	1953	2	12	107	39,005
N	TAN	Astrobotany	1958	6	12	131	41,354
P	ZHETF	Physics	1956	30	18		
Q	VT	Cybernetics	1958		7	110	37,750
	PK	Cybernetics	1960	4			

^aAbbreviations used: Zhetf - Zhurnal Eksperimental*noj i Teoreticheskoj Fiziki (Journal of Experimental and Theoretical Physics); DAN - Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR); IAN - Izvestiya Akademii Nauk SSSR, Seriya Fiziki (Bulletin of the Academy of Sciences of the USSR, Physics Series); IAN (K) = Izvestiya Akademii Nauk KSSR, Seriya Astrobotanicheskaya (Bulletin of the Academy of Sciences of the Kazakhstan SSR, Astrobotany Sector); TAN - Trudy Akademii Nauk KSSR, Sektora Astrobotaniki (Reports of the Academy of Sciences of the Kazakhstan SSR, Astrobotany Sector); Tikhomirov - Sezonnye Izmeneniya Nekotorykh Otrazhatel*nykh Svojstv Rastenij i Vopros o Rastitel*nosti na Marse (Seasonal Changes in Certain Reflecting Properties of Plants and the Question about Vegetation on Mars); Kozlova - Spektrofotometriya Rastenij Raznykh Klimaticeskikh Zon v Otrazhennykh Luchakh (Spectrophotometry of Plants of Different Climatic Zones in Reflected Rays); Darchiya - Fluoresentsiya rastenij pri obluchenii svetom raznoj dliny volny (The Fluorescence of Plants in Radiation by Light of Different Wave Lengths); PK - Problemy Kibernetiki (Problems in Cybernetics); VT - Vychislitel*naya Tekhnika (Computer Technology).

pagination of the original publication; and the size of the article in the same terms as are used in Table 1. When possible, the translations of titles were taken from the English table of contents published in Doklady Akademii Nauk SSSR; other titles were obtained from Soviet Physics. Some translations had to be prepared at RAND, under the direction of K. E. Harper and H. P. Edmundson. Dolores Mohr prepared and J. A. Wood edited many of the translations. Margaret Kivelson kindly reviewed much of the terminology in physics.

CORPUS 1. SUBJECT FIELD: Physics 21 articles; 137 pages; 31,541 occurrences.

JOURNAL: Zhurnal Eksperimental'noj i Teoreticheskoy Fiziki
(Journal of Experimental and Theoretical Physics), 1955.

Article Number

- A. Migdal, A. B., Teoriya yadernykh reaktsij s obrazovaniem medlennykh chastits (The Theory of Nuclear Reactions with Production of Slow Particles), ZHETF, Vol. 28 (1955), pp. 3-9. 8 pages; 1772 occurrences.
- B. Migdal, A. B., Obrazovanie mezonov pri energii, blizkoj k porogovoj (Meson Production at Near-Threshold Energies), ZHETF, Vol. 28 (1955), pp. 10-12. 4 pages; 725 occurrences.
- C. Sokolik, G. A., Zamechaniya k teorii sliyaniya (Remarks Concerning the Theory of Fusion), ZHETF, Vol. 28 (1955), pp. 13-16. 4 pages; 996 occurrences.
- D. Luchina, A. A., O prodol'snykh kolebaniyakh plazmy. I. (On Longitudinal Vibrations of a Plasma. I.), ZHETF, Vol. 28 (1955), pp. 17-27. 12 pages; 2274 occurrences.
- E. Myakishev, G. Ya., and A. A. Luchina, O prodol'snykh kolebaniyakh plazmy. II. (On Longitudinal Vibrations of a Plasma. II.), ZHETF, Vol. 28 (1955), pp. 28-37. 11 pages; 2654 occurrences.
- F. Al'tshuler, S. A., Rezonansnoe pogloshchenie ul'trazvuka v paramagnitnykh solyakh (Resonance Absorption of Ultrasound in Paramagnetic Salts), ZHETF, Vol. 28 (1955), pp. 38-48. 12 pages; 2579 occurrences.
- G. Al'tshuler, S. A., K teorii elektronnogo i yadernogo paramagnitnogo rezonansa pod vliyaniem ul'trazvuka (On the Theory of Electronic and Nuclear Paramagnetic Resonance Under the Influence of Ultrasonics), ZHETF, Vol. 28 (1955), pp. 49-60. 13 pages; 3533 occurrences.
- H. Krivoglaz, M. A., and Z. A. Matysina, K teorii elektricheskogo soprotivleniya uporyadochivayushchikhsya splavov (On the Theory of the Electrical Resistance of Regulating Alloys), ZHETF, Vol. 28 (1955), pp. 61-69. 10 pages; 2292 occurrences.
- I. Kazantsev, B. I., and P. V. Mejklyar, Regressiya tsentrov skrytogo fotograficheskogo izobrazheniya (Regression of the Centers of the Latent Photographic Image), ZHETF, Vol. 28 (1955), pp. 70-76. 7 pages; 1109 occurrences.

J. Leont*ev, N. I., Izmeritel* magnitnogo polya, ispol*zuyushchij magnitnyj rezonans protonov (A Magnetometer Which Makes Use of the Magnetic Resonance of Protons), ZHETF, Vol. 28 (1955), pp. 77-84. 7 pages; 2087 occurrences.

K. Skanavi, G. I., and A. N. Gubkin, K voprosu ob uchete vnutrennego polya pri relaksatsionnoj polaryzatsii v polikristallicheskikh dipol*nykh dielektrikakh (The Problem of Calculating the Internal Field for Relaxation Polarization in Polycrystalline Dipole Dielectrics), ZHETF, Vol. 28 (1955), pp. 85-95. 12 pages; 2274 occurrences.

L. Borodovskaya, L. N., and S. V. Lebedev, Zavisimost* elektroprovodnosti i elektronnoj emissii ot energii metalla v protsesse ego nagrevaniya tokom bol*shoj plotnosti (The Dependence of Electroconductivity and Electron Emission on the Energy of a Metal in the Process of Heating By High-Density Current), ZHETF, Vol. 28 (1955), pp. 96-110. 14 pages; 4040 occurrences.

M. Belen*kij, S. Z., K teorii mnozhestvennogo obrazovaniya chastits pri bol*shikh energiyakh (On the Theory of Multiple Production of Particles at High Energy), ZHETF, Vol. 28 (1955), pp. 111-113. 4 pages; 802 occurrences.

N. Tsytovich, V. N., K relyativistskim popravkam v zadache dvukh tel (On Relativistic Corrections in the Two Body Problem), ZHETF, Vol. 28 (1955), pp. 113-115. 4 pages; 673 occurrences.

O. Khajkin, M. S., Ob issledovaniyakh anizotropii poverkhnostnogo soprotivleniya olova pri nizkikh temperaturakh (Concerning Investigations of the Anisotropy of the Surface Resistance of Tin at Low Temperature), ZHETF, Vol. 28 (1955), pp. 115-117. 3 pages; 731 occurrences.

P. Dishkant, G. P., K voprosu o nezakonnosti odnoj statisticheskoy traktovki kvantovoj mehaniki (The Problem of the Invalidity of One Statistical Treatment of Quantum Mechanics), ZHETF, Vol. 28 (1955), pp. 117. 1 page; 229 occurrences.

Q. Rozental*, I. L., K teorii Fermi mnozhestvennogo obrazovaniya chastits pri stolknoveniyakh nuklonov (On the Fermi Theory of the Multiple Production of Particles with the Collisions of Nucleons), ZHETF, Vol. 28 (1955), pp. 118-120. 4 pages; 357 occurrences.

Note: Occasionally pages of a source document consist only of photographs; footnotes were given separate page numbers during the pre-editing stage.

R. Bonch-Bruevich, V. L., Raspredelenie Fermi pri absolyutnom nule pri uchete vzaimodejstviya elektronov s nulevymi kolebaniyami reshetki (The Fermi Distribution at Absolute Zero Taking into Account the Calculation of the Interaction of Electrons with Zero Point Vibrations of the Lattice), ZHETF, Vol. 28 (1955), pp. 121-122. 2 pages; 401 occurrences.

S. Yappa, Yu. A., Po povodu stat'si V. I. Karpmana "K voprosu o svyazi mezhdu metodom regul'arizatsii i teoriej chastits s proizvol'nym spinom" (Concerning the Paper by V. I. Karpman "The Problem of the Connection Between the Regularization Method and the Theory of Particles with Arbitrary Spin), ZHETF, Vol. 28 (1955), pp. 123-124. 2 pages; 813 occurrences.

T. Zinov'eva, K. N., Poverkhnostnoe natyazhenie zhidkogo He³ v intervale temperatur 0,93 - 3,34⁰K (The Surface Tension of Liquid He³ in the Temperature Interval 0-93 - 3.34⁰K), ZHETF, Vol. 28 (1955), p. 125. 1 page; 396 occurrences.

U. Andronikashvili, E. L., and I. P. Kaverkin, Vrashchenie gelyya II pri bol'sikh skorostyakh (Rotation of Helium II at High Speeds), ZHETF, Vol. 28 (1955), pp. 126-127. 2 pages; 804 occurrences.

CORPUS 2. SUBJECT FIELD: Physics 27 articles; 94 pages; 22,148 occurrences.

JOURNAL: Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR), 1955-1956.

Article Number

- A. Bezuglyj, P. A., A. A. Galkin, and G. Ya. Levin, Poverkhnostnoe soprotivlenie olova v sverkhprovodyashchem sostoyanii pri chastote $7,3 \cdot 10^{10}$ gerts (The Surface Resistance of Tin in the Superconductive State at a Frequency of $7,3 \cdot 10^{10}$ cps), DAN, Vol. 105 (1955), pp. 683-684. 2 pages; 432 occurrences.
- B. Bogolyubov, N. N., and D. V. Shirkov, Model* tipa Li v kvantovoj elektrodinamike (A Lie-Type Model in Quantum Electrodynamics), DAN, Vol. 105 (1955), pp. 685-688. 4 pages; 1259 occurrences.
- C. Bonch-Bruevich, V. L., Adiabaticheskoe priblizhenie v teorii funktsii Grina (An Adiabatic Approximation in the Theory of the Green's Function), DAN, Vol. 105 (1955), pp. 689-692. 4 pages; 642 occurrences.
- D. Varfolomeev, A. A., A. S. Romantseva, and V. M. Kutukova, Uglovoe raspredelenie oskolkov pri delenii urana-238 nejtronami razlichnoj energii (The Angular Distribution of Fragments Resulting from the Fission of Uranium-238 by Neutrons of Different Energy), DAN, Vol. 105 (1955), pp. 693-695. 3 pages; 901 occurrences.
- E. Vuks, M. F., and V. L. Litvinov, Issledovanie rasshireniya linii anizotropnogo rasseyaniya sveta u zhidkostej i opredelenie vremeni relaksatsii (An Investigation of the Expansion of the Line of Anisotropic Diffusion of Light in Liquids and a Determination of the Relaxation Time), DAN, Vol. 105 (1955), pp. 696-699. 4 pages; 789 occurrences.
- F. Galanin, M. D., O reabsorbsii lyuminestsentsii v tonikh sloyakh (Concerning the Reabsorption of Luminescence in Thin Strata), DAN, Vol. 105 (1955), pp. 700-702. 3 pages; 677 occurrences.
- G. Polievktov-Nikoladze, N. M., O funktsii Grina dlya fotona (On the Green's Function for Photons), DAN, Vol. 105 (1955), pp. 703-705. 3 pages; 859 occurrences.
- H. Akulov, N. S., Teoriya magnitostriktsii monokristallov Ni (The Theory of Magnetostriction of Monocrystals of Ni), DAN, Vol. 106 (1956), pp. 31-34. 4 pages; 1120 occurrences.

- I. Biberman, L. M., and E. M. Novodvorskaya, Vliyanie reabsorbsii na shirinu spektral*nykh liniy (The Influence of Reabsorption on the Width of Spectral Lines), DAN, Vol. 106 (1956), pp. 35-38. 4 pages; 880 occurrences.
- J. Gomon, G. O., O lyuminestsentsii i pogloshchenii sveta almazom (Concerning the Luminescence and Absorption of Light by a Diamond), DAN, Vol. 105 (1955), pp. 713-715. 3 pages; 985 occurrences.
- K. Frisman, E. V., and V. N. Tsvetkov, Deformatsiya makromolekul v potoke i ee vliyanie na znak dinamicheskogo dvojnogo luchepreolomleniya rastvora polimera (The Deformation of Macromolecules in a Flux and Its Influence on the Sign of the Streaming Birefringence of a Solution of Polymers), DAN, Vol. 106 (1956), pp. 42-45. 4 pages; 822 occurrences.
- L. Popov, K. A., Ob odnoj osnovnoj formule v teorii neobratimykh termodinamicheskikh protsessov (Concerning a Fundamental Formula in the Theory of Irreversible Thermodynamic Processes), DAN, Vol. 106 (1956), pp. 422-424. 3 pages; 528 occurrences.
- M. Sokolik, G. A., Klassifikatsiya nelinejnykh uravnenij i relyativistski invariantnykh vzaimodejstvij po predstavleniyam gruppy Lorentsa i teoriya slivaniya (A Classification of Nonlinear Equations and Relativistically Invariant Interactions According to Representations of the Lorentz Group and the Theory of Confluence), DAN, Vol. 106 (1956), pp. 429-432. 4 pages; 564 occurrences.
- N. Stekhanov, A. I., Raspredelenie intensivnosti v polose OH spektra kombinatsionnogo rasseyaniya kristalla gipsa (The Distribution of Intensity in the Zone of the OH Spectrum of the Combination Diffusion of a Crystal of Gypsum), DAN, Vol. 106 (1956), pp. 433-436. 4 pages; 1631 occurrences.
- O. Stoyanova, I. G., Elektronnomikroskopicheskoe issledovanie tonikh sloev sur*my temnopol*nym metodom (An Electron-Microscopic Investigation of Thin Layers of Antimony by the Dark-Field Method), DAN, Vol. 106 (1956), pp. 437-439. 3 pages; 920 occurrences.
- P. Skornyakov, G. V., and K. A. Ter-Martirosyan, Reshenie zadachi o dvizhenii trekh nuklonov v predel*nom sluchae korotkodejstvuyushchikh sil (A Solution of the Problem Concerning the Movement of Three Nucleons in the Limiting Case of Short Range Forces), DAN, Vol. 106 (1956), pp. 425-428. 4 pages; 748 occurrences.

Q. Adirovich, E. I., and V. G. Kolotilova, Perekhodnaya kharakteristika poluprovodnikovykh triodov (A Transitional Characteristic of Semiconductor Triodes), DAN, Vol. 105 (1955), pp. 709-712. 4 pages; 726 occurrences.

R. Gol'danskij, V. I., A. A. Koval'skij, V. S. Pen'kina, and E. Z. Tarumov, Poperechnye secheniya neuprugogo vzaimodejstviya nejtronov s energij 120 i 380 Mev s yadrami (The Cross-Section of the Inelastic Interaction of Neutrons of Energy 120 and 380 Mev with Nuclei), DAN, Vol. 106 (1956), pp. 219-222. 4 pages; 1296 occurrences.

S. Logunov, A. A., Vershinnaya chast' v skalyarnoj elektrodinamike v oblasti bol'sikh impul'sov (The Vertex Part in Scalar Electrodynamics in the Region of High Momentum), DAN, Vol. 106 (1956), pp. 223-225. 3 pages; 277 occurrences.

T. Sukhanovskij, V. V., K teorii mnogoslojnykh dvukh-komponentnykh dielektricheskikh pokrytij (On the Theory of Multistrata Two Component Dielectric Deposits), DAN, Vol. 106 (1956), pp. 226-229. 4 pages; 687 occurrences.

U. Trapeznikova, Z. A., and V. V. Shchaenko, Nekotorye opticheskie svojstva novykh tsinksul'fidnykh fosforov, aktivirovannykh redkozemel'nymi elementami (Certain Optical Properties of New Zinc Sulfide Phosphors, Activated with Rare-Earth Elements), DAN, Vol. 106 (1956), pp. 230-232. 3 pages; 1000 occurrences.

V. Shifrin, F. Sh., Svyaz* mezhdu elektronnymi urovnyami energii i mezhduatomnymi rasstoyaniyami v molekulakh (The Relation Between Electronic Energy Levels and Interatomic Distances in Molecules), DAN, Vol. 106 (1956), pp. 233-236. 4 pages; 697 occurrences.

W. Drozdov, S. I., Sechenie pogloshcheniya bystrykh chashtits poluprozrachnymi yadrami (The Cross-Section for Absorption of Fast Particles by Translucent Nuclei), DAN, Vol. 106 (1956), pp. 409-412. 4 pages; 564 occurrences.

X. Ivanenko, D., and M. Mirianashvili, Nelinejnoe obobshchenie spinornogo Dirakovskogo uravneniya (A Nonlinear Generalization of the Spinor Dirac Equation), DAN, Vol. 106 (1956), pp. 413-414. 2 pages; 429 occurrences.

Y. Kats, M. L., and B. Z. Semenov, Atomarnye tsentry nikelya v fosforakh NaCl-Ni (Atomic Centers of Nickel in Phosphors of NaCl-Ni), DAN, Vol. 106 (1956), pp. 415-418. 4 pages; 1389 occurrences.

Z. Kirenskij, L. V., and V. F. Ivlev, Temperaturnyj gisteresis gal*vanomagnitnogo effekta (The Temperature Hysteresis of the Galvanomagnetic Effect), DAN, Vol. 106 (1956), pp. 419-421. 3 pages; 463 occurrences.

1. Spivak, G. V., and T. N. Dombrovskaya, Elektronno-opticheskij metod izucheniya dinamiki termicheskikh protsessov v neprozrachnykh sredakh (An Electron-Optical Method of Study of the Dynamics of Thermal Processes in Opaque Media), DAN, Vol. 106 (1956), pp. 39-41. 3 pages; 863 occurrences.

CORPUS 3. SUBJECT FIELD: Physics 18 articles; 176 pages; 44,180 occurrences

JOURNAL: Zhurnal Eksperimental*noj i Teoreticheskoi Fiziki
(Journal of Experimental and Theoretical Physics),
1955.

Article Number

- A. Pekar, S. I., O sushchestvovanii kvantovykh statsionarnykh sostoyaniij tochechnykh nuklonov, vzaimodejstvuyushchikh s mezonnym polem (On the Existence of Quantum Stationary States of Point Nucleons which Interact with Meson Fields), ZHETF, Vol. 29 (1955), pp. 599-604. 6 pages; 1369 occurrences.
- B. Rytov, S. M., Elektromagnitnye svojstva melkosloistoj sredy (Electromagnetic Properties of a Finely Stratified Medium), ZHETF, Vol. 29 (1955), pp. 605-616. 13 pages; 3159 occurrences.
- C. Glembotskij, I. I., V. V. Kibartas, and A. P. Yutsis, Samosoglasovannoe pole Foka v dvukhkonfiguratsionnom priblizhenii dlya atoma bora (Self-Consistent Field of Fock in the Two-Configuration Approximation for the Boron Atom), ZHETF, Vol. 29 (1955), pp. 617-622. 5 pages; 861 occurrences.
- D. Kibartas, V. V., V. I. Kavetskis, and A. P. Yutsis, Samosoglasovannoe pole Foka v trekhkonfiguratsionnom priblizhenii dlya atoma berilliya (Self-Consistent Field of Fock in the Three-Configuration Approximation for the Beryllium Atom), ZHETF, Vol. 29 (1955), pp. 623-628. 6 pages; 1072 occurrences.
- E. Gurevich, L. E., and V. N. Gribov, Dielektricheskie poteri v ionnykh dielektrikakh v sil*nykh elektricheskikh polyakh (Dielectric Losses in Ionic Dielectrics in Strong Electric Fields), ZHETF, Vol. 29 (1955), pp. 629-636. 8 pages; 857 occurrences.
- F. Gvozdover, S. D., and N. M. Ievskaya, Opredelenie vremeni prodol*noj relaksatsii pri magnitnom rezonanse atomnykh yader v sil*nom vysokochastotnom magnitnom pole (Determination of the Longitudinal Relaxation Time for Magnetic Resonance of Atomic Nuclei in a Strong High-Frequency Magnetic Field), ZHETF, Vol. 29 (1955), pp. 637-644. 8 pages; 1927 occurrences.

G. Khokhlov, M. Z., K voprosu o vozmozhnosti izmereniya temperatury kanala fakel*nogo razryada po polose gidroksila 3064 Å (The Problem of the Possibility of Measuring the Temperature of a Jet Discharge Column Using the 3064 Å Hydroxyl Band), ZHETF, Vol. 29 (1955), pp. 645-650. 7 pages; 1664 occurrences.

H. Solntsev, G. S., and M. M. Dmitrieva, Dvukhelektrodnyj vysokochastotnyj razryad pri davleniyakh ot 100 mm rt. st. do atmosfernogo (Two Electrode High-Frequency Discharge for Pressures from 100 mm Hg to Atmospheric), ZHETF, Vol. 29 (1955), pp. 651-657. 8 pages; 2265 occurrences.

I. Kizel*, V. A., Izuchenie struktury poverkhnosti zhidkosti metodom otrazheniya sveta (A Study of the Surface Structure of a Liquid by the Method of Reflection of Light), ZHETF, Vol. 29 (1955), pp. 658-668. 11 pages; 2742 occurrences.

J. Stepanov, A. V., and I. M. Ejodus, O zavisimosti uprugikh postoyannykh monokristallov khloristogo natriya i khloristogo serebra ot temperatury (On the Temperature Dependence of the Elastic Constants of Sodium Chloride and Silver Chloride Monocrystals), ZHETF, Vol. 29 (1955), pp. 669-675. 7 pages; 1832 occurrences.

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JOURNAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya
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X. Fejnberg, E. L., and D. S. Chernavskij, Vysshie priblizheniya v metode samosoglasovannogo polya mezonnoj teorii (Higher Approximations in the Self-Consistent Field Method of Meson Theory), DAN, Vol. 108 (1956), pp. 619-622. 4 pages; 1085 occurrences.

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CORPUS 6. SUBJECT FIELD: Physics 35 articles; 119 pages; 27,960 occurrences

JOURNAL: Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR), 1956.

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- D. Shifrin, F. Sh., Metod izucheniya elektronnykh termov dvukhatomnykh molekul. Elektronnye termy i dliny molekul shchelochnykh metallov i ikh gidridov (A Method of Studying the Electron Terms of Diatomic Molecules. The Electron Terms and Molecular Bond Lengths of Metals and Their Hydrides), DAN, Vol. 110 (1956), pp. 549-551. 2 pages; 556 occurrences.
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- G. Il*ina, V. A., and V. K. Kritskaya, Opredelenie staticheskikh iskazhenij kristallicheskoy reshetki s primeneniem rentgenovskogo izlucheniya razlichnoj dliny volny (Determination of the Static Distortions of Crystal Lattices with the Application of X-rays of Different Wavelengths), DAN, Vol. 110 (1956), pp. 765-768. 4 pages; 984 occurrences.

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CORPUS 7. SUBJECT FIELD: Mathematics. 35 articles; 125 pages; 27,672 occurrences

JOURNAL: Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR), 1956.

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K. Skvortsov, P. G., O sil*noj skhodimosti summ Valle-Pussena v prostranstvakh Orlicha (On Strong Convergence of Vallee-Poussin Sums in Orlicz Spaces), DAN, Vol. 108 (1956), pp. 774-776. 3 pages; 576 occurrences.

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Y. Koshelev, A. I., Ob ogranicennosti v L proizvodnykh reshenij ellipticheskikh uravnenij i sistem (On the Boundedness in L of the Derivatives of Solutions of Elliptical Equations and Elliptical Systems), DAN, Vol. 110 (1956), pp. 323-325. 3 pages; 730 occurrences.

Z. Mel*nikov, G. I., Nekotorye voprosy pryamogo metoda Lyapunova (Some Problems Concerning the Lyapunov's Direct Method), DAN, Vol. 110 (1956), pp. 326-329. 4 pages; 751 occurrences.

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5. Vorovich, I. I., O metode Bubnova-Galerkina v nelinejnoj teorii kolebanij pologikh obolochek (On the Bubnov-Galerkin Method in the Nonlinear Theory of Vibrations of Slightly Curved Shells), DAN, Vol. 110 (1956), pp. 723-726. 4 pages; 1000 occurrences.
6. Voronovskaya, E. V., Metod funktsionalov v prilozhenii k polinomam N. T. Akhiezera (A Functional Method Applied to Achieser Polynomials), DAN, Vol. 110 (1956), pp. 727-730. 4 pages; 787 occurrences.
7. Lavrent*ev, M. M., Kolichestvennye utochneniya vnutrennikh teorem edinstvennosti (Numerical Estimates Intrinsic to Theorems of Uniqueness), DAN, Vol. 110 (1956), pp. 731-734. 4 pages; 713 occurrences.
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CORPUS 8. SUBJECT FIELD: Mathematics 35 articles; 125 pages; 26,775 occurrences.

JOURNAL: Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR), 1956.

Article Number

- A. Vorovich, I. I., O nekotorykh sluchayakh sushchestvovaniya periodicheskikh reshenij (On Some Cases of Existence of Periodic Solutions), DAN, Vol. 110 (1956), pp. 165-168. 4 pages; 804 occurrences.
- B. Zubov, V. I., Issledovanie okrestnosti polozheniya ravnovesiya sistemy differential*nykh uravnenii (Investigation of the Surroundings in an Equilibrium Position of a System of Differential Equations), DAN, Vol. 110 (1956), pp. 169-171. 3 pages; 590 occurrences.
- C. Lidskij, V. L., O polnote sistemy sobstvennykh i prisoedinenykh funktsij nesamosopryazhennogo differential*nogo operatora (On the Completeness of a System of Real and Ascribed Functions of a Non-Self Conjugate Differential Operator), DAN, Vol. 110 (1956), pp. 172-175. 4 pages; 907 occurrences.
- D. Nejshuler, L. Ya., K-chlennoe tabulirovanie, umen*shenie chisla eksperimentov dlya sostavleniya "nachal*noj tablitsy" i rasshcheplenie empiricheskikh funktsij 3-4 peremennykh (K-term Tabulation, Reduction In the Number of Experiments for Composition of a "Beginning Table" and Decomposition of Empirical Functions of 3-4 Variables), DAN, Vol. 110 (1956), pp. 176-179. 4 pages; 609 occurrences.
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- G. Dezin, A. A., Smeshannye zadachi dlya nekotorykh parabolicheskikh sistem (Miscellaneous Problems for Certain Parabolic Systems), DAN, Vol. 110 (1956), pp. 503-506. 4 pages; 866 occurrences.

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O. Vishik, M. I., and L. A. Lyusternik, Stabilizatsiya reshenij nekotorykh differentials*nykh uravnenij v Gil*bertovom prostranstve (Stabilization of Solutions of Certain Differential Equations in Hilbert Space), DAN, Vol. 111 (1956), pp. 12-15. 4 pages; 646 occurrences.

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Y. Beklemisheva, L. A., Ob asimptoticheskem povedenii reshenij nekotorykh nelinejnykh sistem differential*nykh uravnenij (On the Asymptotic Behaviour of the Solutions of Some Nonlinear Systems of Differential Equations), DAN, Vol. III (1956), pp. 261-264. 4 pages; 1021 occurrences.

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vtorogo poryadka (Semi-groups of Operators, Corres-
ponding to a Generalized Second Order Differential
Operator), DAN, Vol. III (1956), pp. 269-272. 4 pages;
757 occurrences.
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reshenij parabolicheskikh uravnenij (Stabilization of
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3. Egorov, I. P., Rimanovy prostranstva vtoroj lakunarnosti
(Riemannian Spaces of Second Lacunarity), DAN, Vol. III
(1956), pp. 276-279. 4 pages; 1173 occurrences.
4. Korenbljum, B. I., Obobshcheniya Tauberovoj teoremy
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alization of Wiener's Tauberian Theorem and the Spectrum
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5. Krasnosel*skij, M. A., O primenenii metodov nelinejnogo
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568 occurrences.
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reshenij sootvetstvuyushchikh parabolicheskikh uravnenij
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9. Pkhakadze, Sh. S., Nekotorye predlozheniya, ekvivalentnye gipoteze kontinuuma (Some Statements Equivalent to the Continuum Hypothesis), DAN, Vol. III (1956), pp. 299-300. 2 pages; 592 occurrences.

CORPUS 9. SUBJECT FIELD: Physics. 35 articles; 122 pages; 28,864 occurrences.

JOURNAL: Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences of the USSR), 1956.

Article Number

- A. Gavrilovskij, B. V., V. Ya. Golovnya, K. V. Karadzhev, A. P. Klyucharev, and V. I. Man*ko, Polyarizatsiya protonov maloj energii pri rasseyaniil na uglerode (Polarization of Small Energy Protons During Scattering by Carbon), DAN, Vol. III (1956), pp. 59-62. 4 pages; 1126 occurrences.
- B. Glauberman, A. E., K teorii real*nogo gaza s netsentral*nym zakonom vzaimodejstviya chashtits (On the Theory of a Real Gas with a Noncentral Interaction of the Particle), DAN, Vol. III (1956), pp. 63-66. 4 pages; 532 occurrences.
- C. Livshits, M. S., O matritse rasseyaniya promezhutochnoj sistemy (On the Scattering Matrix of an Intermediate System), DAN, Vol. III (1956), pp. 67-70. 4 pages; 622 occurrences.
- D. Nikol*skij, S. I., Yu. N. Vavilov, and V. V. Batov, Issledovanie yaderno-aktivnoj komponenty shirokikh atmosfernykh livnej kosmicheskogo izlucheniya (Investigation of Nuclear-active Component of Large Air Showers of Cosmic Radiation), DAN, Vol. III (1956), pp. 71-73. 3 pages; 874 occurrences.
- E. Popovich, Andrej, Nelinejnost* i konformnaya vzaimnost* (Nonlinearity and Conformal Reciprocity), DAN, Vol. III (1956), pp. 74-77. 4 pages; 882 occurrences.
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- J. El'yashevich, M. A., and O. N. Nikitina, Tripletno-kvintetnye perekhody v spektre atoma kremniya (Triplet-quintet Transitions in the Spectrum of a Silicon Atom), DAN, Vol. 111 (1956), pp. 325-327. 3 pages; 871 occurrences.
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CORPUS D. SUBJECT FIELD: Physics 35 articles; 117 pages; 29,280 occurrences.

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- V. Tikhomirov, Glava 2. Metodika raboty (Chapter 2. The Method of Work), pp. 12-26. 15 pages; 3711 occurrences.
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- X. Tikhomirov, Glava 4. (First Half) Sezonnye izmeneniya spektral*noj otrazhate1*noj sposobnosti rastenij (Chapter 4. Seasonal Changes and the Spectral Reflecting Capability of Plants), pp. 33-75. 26 pages; 3208 occurrences.
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- Z. Tikhomirov, Vyvody (Conclusions), pp. 98-99. 3 pages; 576 occurrences.
- 1. Tikhomirov, Zaklyuchenie (Final Remarks), pp. 100-101. 2 pages; 444 occurrences.
- 2. Tikhomirov, Oglavlenie (Index), pp. 102-103. 2 pages; 267 occurrences.

CORPUS J. SUBJECT FIELD: Astrobotany 12 articles; 120 pages; 26,277 occurrences.

JOURNAL: Kozlova, K. I., Spektrofotometriya rastenij raznykh klimaticheskikh zon v otrazhennykh luchakh (Spectrophotometry of Plants of Different Climatic Zones in Reflected Rays), Izdatel'stvo Akademii Nauk Kazakhstoj SSR (Published by The Academy of Sciences of the Kazakhstan SSR), Alma Ata, 1955.

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- B. Glava 1. Kratkij istoricheskij obzor (Chapter 1: A Short Historical Summary), pp. 5-22. 18 pages; 6410 occurrences.
- C. Glava 2. Kratkoe opisanie rajonov polevykh rabot (Chapter 2: A Short Description of the Regions of Field Work), pp. 23-33. 10 pages; 2520 occurrences.
- D. Glava 3. Metodika raboty (Chapter 3: Method of Work), pp. 34-54. 21 pages; 4218 occurrences.
- E. Glava 4. Spektrofotometriya rastenij v vidimoj oblasti spektra (Chapter 4: Spectrophotometry of Plants in the Visible Region of the Spectrum), pp. 55-75. 17 pages; 2870 occurrences.
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CORPUS K. SUBJECT FIELD: Astrobotany 13 articles; 153 pages; 37,040 occurrences.

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- G. Darchiya, Glava 1. Istorija voprosa (Chapter 1. History of the Question), pp. 5-20. 17 pages; 5447 occurrences.
- H. Darchiya, Glava 2. Metodika raboty (Chapter 2. The Method of the Work), pp. 21-41. 21 pages; 3931 occurrences.

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CORPUS L. SUBJECT FIELD: Astrobotany 28 articles; 123 pages; 35,527 occurrences.

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